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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/633,122      | 08/04/2000  | Theodore Rappaport   | 02560034aa          | 1149             |

30743 7590 03/15/2004

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RESTON, VA 20190

EXAMINER

SHARON, AYAL I

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2123

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/633,122

Applicant(s)

RAPPAPORT ET AL.

Examiner

Ayal I Sharon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3,4,5.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

**REQUIREMENT FOR INFORMATION – 37 C.F.R. § 1.105**

1. Examiner has located several documents that raise issues of inventorship, assignment rights, and on sale activity of the invention disclosed in the instant application. Examiner has also found a discrepancy regarding one of the references provided by the Applicants in an IDS (paper #3). The documents that raise these issues are:
  - a. "SMT Plus: Site Modeling Tool. A Software Tool for Planning Indoor Wireless Systems." © 2001. Printed from <http://www.mprg.org/research/smt/smt.shtml> on 3/5/04. (Referred to in this document as "**SMT Plus**").
  - b. "MPRG Industrial Affiliate Program." 2001. Printed from <http://www.mprg.org/partnerships/affiliate.shtml> on 3/5/04.
  - c. "Wireless Research Leads to Indoor Planning Tool." EE Connection, Feb. 1997. Printed from <http://www.ecpe.vt.edu/ecenews/feb97/smt.html> on 3/5/04. (Referred to in this document as "**EE Connection**").
  - d. "VTIP Disclosure No.: 96-013." Virginia Tech Intellectual Properties, Inc. © 1997-2001. Printed from <http://www.vtip.org/licensing/disclosures/96-013.htm> on 3/5/04. (Referred to in this document as "**VTIP Disclosure**").
  - e. "Communication Products Special Section." EDN Access, Aug. 1, 1996. Printed from <http://www.e-insite.net/ednmaq/archives/1996/080196/16df1.htm> on 3/5/04. (Referred to in this document as "**EDN Access**").

- f. Panjwani et al., "Interactive Computation of Coverage Regions for Wireless Communication in Multifloored Indoor Environments." IEEE Journal of Selected Areas in Communication. April 1996. pp.420-430. (Referred to in this document as "**Panjwani**").
  - g. Skidmore et al. "Interactive Coverage Region and System Design Simulation for Wireless Communication Systems in Multifloored Indoor Environments: SMT Plus." 5<sup>th</sup> Int'l Conference on Universal Personal Communications, Sept.29 – Oct.2, 1996. pp.646-650, vol.2. (Referred to in this document as "**Skidmore**").
  - h. Skidmore et al. "A Comprehensive In-Building and Microcellular Wireless Communication System Design Tool." The Bradley Dept. of Electrical Engineering, Virginia Tech Univ. MPRG-TR-97-13. June 1997. (Referred to in this document as "**Skidmore\_2**").
  - i. "Scholarly Communications Project". Regarding Master's Thesis of Roger R. Skidmore. Printed from <http://scholar.lib.vt.edu/theses/delayed/etd-61097-104157/etd-title.html> on 3/5/04. (Referred to in this document as "**Scholarly Comm. Project**").
2. The SMT Plus, Panjwani, and Skidmore documents raise questions of inventorship.

- a. The first page of the SMT Plus document contains the following quotation:

SMT Plus was developed at MPRG in the early 1990s from years of indoor/microcell propagation research at Virginia Tech. It is an early research predecessor to SitePlanner™ Tool Suite, the powerful commercial indoor/microcellular prediction & measurement system

developed by Wireless Valley Communications, Inc. Please visit the Wireless Valley Communications, Inc. website to learn about the full capabilities of this powerful indoor/microcellular engineering and system management tool suite.

- b. Based on the information in the Skidmore and Skidmore\_2, examiner finds that the SMT Plus software reads on the claimed invention (See the accompanying Office Action for more details).
  - c. In the "Developers" section of the SMT Plus document, a total of five faculty members and graduate students are listed as having "contributed to SMT's success." They are: Dr. Theodore Rappaport, Dr. A. Lynn Abbott, Nitin Bhat, Manish Panjwani, and Roger Skidmore. Out of these five individuals, only Dr. Rappaport and Mr. Skidmore are listed as inventors in the instant application.
  - d. Moreover, in the "Publications" section of the SMT Plus document, the Panjwani and Skidmore publications are listed. Both the Panjwani and Skidmore publications list Dr. Abbott as a co-author, yet Dr. Abbott is not listed as a co-inventor in the instant application.
  - e. The Panjwani publication also lists Mr. Panjwani as a co-author, yet he is not listed as a co-inventor in the instant application.
  - f. Clarification of these issues is required.
3. The SMT Plus, VTIP Disclosure, Panjwani, and Skidmore documents raise questions of assignment rights.
- a. In the "Acknowledgement" section of the SMT Plus document, the following groups are thanked for their "contributions to the SMT project":

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I. MPRG Industrial Affiliate Members

II. The National Science Foundation

III. The Office of National Drug Control Policy

IV. IBM

V. Grayson Electronics

b. Moreover, the link to "MPRG Industrial Affiliate Members" (Item 3(a)(I) above) in the "Acknowledgement" section of the SMT Plus document leads to the "MPRG Industrial Affiliate Program" document, which lists the following companies as having funded the MPRG in exchange for "provid[ing] an opportunity for industry to profit from MPRG's research, facilities, and personnel":

I. Analog Devices

II. Army Research Office

III. General Dynamics Decision Systems

IV. Huawei Technologies Company

V. Lucent Technologies

VI. Motorola Inc.

VII. Qualcomm Incorporated

VIII. Samsung

IX. SBC Technology Resources, Inc.

X. DRS Technologies

XI. Texas Instruments

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- c. The Panjwani document states (at the bottom of p.1, col.1) that "This work was supported by AT&T Global Information Systems."
  - d. The Skidmore document thanks the following organizations for "their support of the SMT Plus project":
    - I. The National Science Foundation
    - II. The Office of National Drug Control Policy
    - III. The MPRG Industrial Affiliates
  - e. Both the Skidmore document, and the VTIP Disclosure document state that AutoDesk's AutoCAD is used to implement the claimed invention.
  - f. None of the above listed companies or U.S. Government agencies are cited in the instant application as having rights to the invention.
  - g. Clarification of these issues is required.
4. The EE Connection and EDN Access documents raise questions of public use and on sale activity prior to the on sale bar date.
- a. The EE Connection document teaches the following:

Research on indoor wireless propagation in the Department's Mobile and Portable Radio Research Group (MPRG) has led to the development of the first commercially available indoor/microcellular Site Modeling Tool. Called SMT Plus, the software helps planners with indoor site selection, system bidding and preliminary wireless system design.
  - b. The date of the EE Connection document, February 1997, is before the on-sale bar date of the claimed invention.
  - c. The EDN Access document (p.2) teaches the following:

Software tool for indoor wireless system

SMT Plus 1.0 is an interactive software tool for planning, simulating, and installing indoor wireless systems. The program displays signal strength and interference contours on building blueprints for arbitrary base-station placements. Available for DOS, Windows, and a variety of Unix platforms, SMT Plus addresses all major wireless communication standards, including AMPS, IS-136, IS-95, and wireless LAN. \$2500. Virginia Polytechnic Institute and State University, Blacksburg, VA.

- d. The date of the EDN Access document, August 1, 1996, is before the on-sale bar date of the claimed invention.
  - e. Clarification of these issues is required.
5. The Scholarly Comm. Project document raises questions regarding the availability of one of the documents submitted by the Applicants in an IDS (paper #3).
- a. The submitted document in question is Skidmore\_2.
  - b. Applicants declare in an IDS (paper #3, p.13, Item #24) that Skidmore\_2 was "unpublished by Virginia Tech for 2 years after submission."
  - c. The Scholarly Comm. Project teaches (p.1, "Availability" section) the following:

Release the entire work for Virginia Tech access only. After one year release worldwide only with written permission of the student and the advisory committee chair.
  - d. The Scholarly Comm. Project teaches (p.2) that:

At the author's request, all materials (PDF files, images, etc.) associated with this ETD are accessible from the Virginia Tech network only.

The author grants Virginia Tech or its agents the right to archive and display their thesis or dissertation in whole or in part in the



University Libraries in all forms of media, now or hereafter known.  
The author retains all proprietary rights, such as patent rights.

- e. The Scholarly Comm. Project contradicts Applicants' statement in the IDS that Skidmore\_2 was "unpublished by Virginia Tech for 2 years." It appears that the reference was archived and displayed in the Virginia Tech University Libraries immediately after the defense (June 9, 1997).
- f. Clarification of these issues is required.

**6. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application:**

- Information clarifying the inventorship issues of SMT Plus.
- Information clarifying the assignment issues of SMT Plus.
- Information clarifying the on-sale activity issues of SMT Plus.
- Information clarifying the disclosure history of the Skidmore\_2 reference.

Applicant is reminded that failure to fully reply to this requirement for information will result in a holding of abandonment.

**7. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement.** This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures

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beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

8. **The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56.** Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained will be accepted as a complete reply to the requirement for that item.
9. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (703) 306-0297. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (703) 305-9704. Any response to this office action should be mailed to:

Director of Patents and Trademarks  
Washington, DC 20231

Hand-delivered responses should be brought to the following office:

4<sup>th</sup> floor receptionist's office  
Crystal Park 2  
2121 Crystal Drive

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Arlington, VA

The fax phone number is: (703) 872-9306

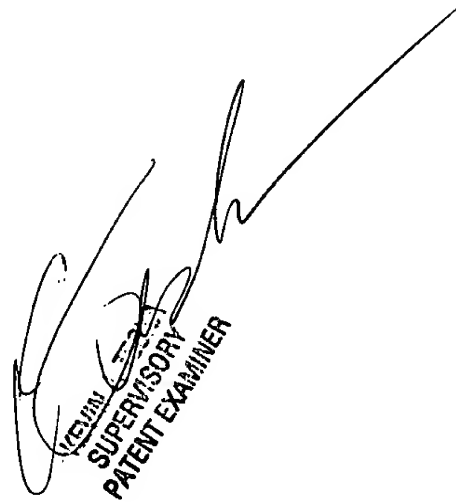
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is:

(703) 305-3900.

Ayal I. Sharon

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March 6, 2004



AYALA SHARON  
SUPERVISORY  
PATENT EXAMINER